

# Guidelines for Calculating Emissions from Greenwaste Composting and Co-Composting Operations

December 2013

## DESCRIPTIONS:

Composting refers to the active phase biodegradation and subsequent curing phase of organic waste materials. Greenwaste composting is microbiological decomposition of greenwaste by itself, or in combination with foodwaste, or up to 20 percent manure, per pile volume basis. Co-Composting is composting of biosolids and/or manure with a bulking agent. Composting of greenwaste combined with manure greater than 20 percent, per pile volume basis, is considered as co-composting. Specific to greenwaste composting and co-composting, Rule 301 requires that the total weight of emissions of organic gases (VOC) and ammonia (NH<sub>3</sub>) be annually reported, even those which continue to passively emit air contaminants after they are processed by permitted or unpermitted equipment or operations. Your composting facility is not subject to annual reporting program, if your total facility's organic gases (VOC), nitrogen oxides (NO<sub>x</sub>), sulfur oxides (SO<sub>x</sub>), or particulate matter (PM) emissions are each below 4 tons per calendar year, and when your facility's ammonia emissions are below 200 pounds per calendar year.

## 1. EMISSION CALCULATION PROCEDURES

- a) Facilities can estimate their VOC and NH<sub>3</sub> emissions using equation (1) when the emissions are not being controlled or equation (2) when the emissions are being controlled prior to be released to the atmosphere.

$$\text{EMISSION} = \text{Throughput} * \text{Uncontrolled Emission Factor} \quad (1)$$

$$\text{EMISSION} = \text{Throughput} * \text{Controlled Emission Factor} \quad (2)$$

Where,

EMISSION: VOC or NH<sub>3</sub> emissions expressed in pounds per year (lb/yr)

Throughput: Mass of foodwaste, manure, biosolids, and greenwaste in tons per year as received by a facility and processed through composting excluding recycled materials.

Uncontrolled Emission Factor (EF<sub>u</sub>): AQMD default factors that are taken from the Rule 1133.2 and Rule 1133.3 staff reports and are available to estimate the emissions from co-composting and greenwaste composting operations.

Controlled Emission Factors (EF<sub>c</sub>): These are the factors determined based on the types of emissions control exist at the facility such as best management practices or additional AQMD approved control system as described below.

*If you use the controlled emission factors to estimate your emissions, you must provide the District with documentation that demonstrates compliance.*

- i. **Best Management Practices:** The best management practices are defined as when greenwaste composting piles are covered with at least six inches of finished compost within 24 hours of initial pile formation, and not turned for the first seven days of active phase composting, and

For the first fifteen days of initial pile formation, and within six hours before turning, the top half of the pile is kept wet to a depth of at least three inches

- ii. **Add-on Control:** AQMD approved emission control system is used for greenwaste composting and co-composting piles (i.e., Thermal Oxidizer (T/O), Bio-filtration, etc.)

**b) Uncontrolled and Controlled Emission Factors for Greenwaste Composting & Co-Composting Operations**

The uncontrolled emission factors for VOC & NH<sub>3</sub> are provided in Table 1 and the controlled emission factors are listed under Table 2a for housekeeping practices and Table 2b for add-on control.

**Table 1: Uncontrolled Emission Factors**

Operation	VOC (lbs/ton of throughput)	NH <sub>3</sub> (lbs/ton of throughput)
Greenwaste Composting	4.67	0.66
Co-Composting	1.78	2.93

**Table 2a: Controlled Emission Factors (Best Management Practices)**

Operation	VOC (lbs/ton of throughput)	NH <sub>3</sub> (lbs/ton of throughput)
Greenwaste Composting	2.80 <sup>*</sup>	0.53 <sup>**</sup>

<sup>\*</sup>This value assumes 40% control, <sup>\*\*</sup>This value assumes 20% control

**Table 2b: Controlled Emission Factors (Add-On Control)**

Operation	VOC (lbs/ton of throughput)	NH <sub>3</sub> (lbs/ton of throughput)
Greenwaste Composting	4.67 x (1-CE <sub>VOC</sub> )	0.66 x (1-CE <sub>NH3</sub> )
Co-Composting	1.78 x (1-CE <sub>VOC</sub> )	2.93 x (1-CE <sub>NH3</sub> )

Where, CE<sub>VOC</sub> or CE<sub>NH3</sub> is a control efficiency of the Add-on control and expressed as a decimal fraction.

**c) VOC and NH<sub>3</sub> Emissions Calculations**

To estimate the total VOC and NH<sub>3</sub> emissions from greenwaste composting or co-composting operations,

1. Take the total weight of foodwaste, manure, biosolids, and greenwaste in tons per year as received by a facility and processed through composting excluding recycled materials.
2. Take the uncontrolled emission factor from Table 1 when there is no control at the facility or controlled emission factors from Tables 2a or 2b when best management practices or AQMD approved control system are used, based on the type of emissions (i.e., VOC, NH<sub>3</sub>).
3. Enter the values obtained in steps 1 and 2 in equations (1) or (2), whichever applicable, to estimate the VOC & NH<sub>3</sub> emissions for greenwaste composting and/or co-composting operations.

## **2. APPLICABLE AER FORMS AND PROCEDURS TO FILL OUT THE FORMS**

Facilities are required to report their VOC and NH<sub>3</sub> emissions to District using the applicable AER forms. For greenwaste composting and co-composting operations, VOC Emissions must be reported on Form B4U and NH<sub>3</sub> must be reported on TAC form. In addition, there are other AER forms that need to be filed out such as Forms C and/or CU, TACS, ES, S, and X. The procedures to fill out forms B4U and TAC are demonstrated through the example problem listed below. If a greenwaste composting/co-composting facility is using any types of internal combustion engines (pumps, compressors, etc) or external combustion engines (boilers, heaters, etc), other forms such as Forms B1, B1U, B2, and/or B2U need to be filed out as well. To find out about the procedures to fill out these forms, you may also refer to HELP & SUPPORT Section of the AER Web Application under Examples. The summary of descriptions of these forms is also listed on-line under HELP & SUPPORT Section.

### **EXAMPLES:**

The following examples show how data are entered into the AER Web Tool and emissions are reported. A facility reports emissions from three distinct greenwaste composting and co-composting operations as follows:

**Operation 1:** Co-composted 8,000 tons of materials with no add-on control. The VOC and NH<sub>3</sub> emissions are estimated as shown in screenshots 1 - 7 below with emission factors from row 2 of Table 1.

**Operation 2:** Composted 10,000 tons of combined greenwaste composting materials with good housekeeping practices. The VOC and NH<sub>3</sub> emissions are estimated as shown in screenshots 8 - 13 below with emission factors from Table 2a.

**Operation 3:** Co-composted 18,000 tons of materials with add-on control system: thermal oxidizer (T/O) controlling VOC at 99.2% efficient and bio-filter controlling NH<sub>3</sub> at 75% efficient. The VOC and NH<sub>3</sub> emissions are estimated as shown in screenshots 14 - 20 below with emission factors from row 1 of Table 2b.

Screenshot #21 shows emissions from composting and co-composting processes are added.

## Operation 1: Screenshot #1: Add Emission Source for Uncontrolled Co-Composting Operation

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Summaries

Data Validation

Report Submission

Facility ID: 999111 · ABC · Reporting period: 2013

**Edit Emission Source**

Providing correct information and proper selection categories would help to classify emission source.

Permitted ☐

A/N

Permit No

Permit Device ID

AER Device ID will be assigned upon saving

ES Name

Operating ES Status Normal Operation \*

Comment Co-Composting Operations

Emission Source Group Other Processes Determine Emission Source Group Type \*

Design Capacity

Save and return to List of Emission Sources or Save and proceed to Process Reporting or Cancel

Optional: Save and Mark as Completed

AQMD web site Home | AER Web Site | Submit question/comment | Ecotek Web Site | Report a Bug

## Operation 1: Screenshot #2: Select Process ID P1

South Coast Air Quality Management District

AER Home Access Facility Facility Home

Facility ID: 999111 · ABC · Reporting period: 2013

Form data is successfully saved.

**Process References**

A/N	Permit NO	Permit Device ID	Permit Device Description	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
				ES37		Other Processes	Y	Other process equipment	Work in progress

Process ID P1

Source Group Other Process Emissions

Process Name

Process Status Work in progress

Operation Type routine

Add Process

OK

Displaying 37 emission sources. You can use filter to narrow down selection.

A/N

Permit NO

AER Device ID

Permit Device ID

Search Emission Sources

Add New Emission Source

Search:

Print Preview

http://aerdev.aqmd.gov/Report/999111/2013/EditSingle/B4/510

## Operation 1: Screenshot #3: Assign Activity Code and Rule Number

South Coast AQMD Air Quality Management District

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

Other Processes

Process Upset

Summaries

Annual Throughput

Criteria Emissions (lbs)

Pollutant EF Unit Controlled EF EF Data Source Overall CE Emissions

Done

Local intranet | Protected Mode: Off

7:53 AM

## Operation 1: Screenshot #4: Input Throughput

South Coast AQMD Air Quality Management District

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

Other Processes

Process Upset

Summaries

Annual Throughput

Criteria Emissions (lbs)

Pollutant EF Unit Controlled EF EF Data Source Overall CE Emissions

Done

Local intranet | Protected Mode: Off

7:55 AM

## Operation 1: Screenshot #5: Enter VOC Information

The screenshot shows the AER Deviation Reporting System interface. The main window displays 'Facility ID: 999111' and 'Reporting period: 2013'. A dialog box titled 'Open Criteria Emission Information - Other Processes' is open, showing the following information:

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES37		P1	1133.2		Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput: 8,000.0 tons

Pollutant: VOC \*  
 Emission Factor (EF): 1.7800 \* lbs/tons  
☐ Controlled EF value (mark checkbox if EF listed represents EF determined after control)  
 Overall Control Efficiency: 0.00000  
 Emission Factor Comment: Uncontrolled Co-Composting VOC Emissions  
 Emission Factor Data Source: AQMD default  
 Emissions: 14,240.00 lbs

Buttons: Save, Cancel

Below the dialog box, there is a table for 'Criteria Emissions (lbs)' with columns: Pollutant, EF, Unit, Controlled EF, EF Data Source, Overall CE, Emissions. An 'Add New' button is present.

Below the table, there is a section for 'Toxic (TAC/ODC) Emissions (lbs)'.

## Operation1: Screenshot #6: Enter Ammonia Information

The screenshot shows the AER Deviation Reporting System interface. The main window displays 'Facility ID: 999111'. A dialog box titled 'Open Toxic (TAC/ODC) Emission Information - Other Processes' is open, showing the following information:

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES37		P1	1133.2		Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput: 8,000.0 tons

TAC/ODC Toxic Pollutants / Ozone Depleting Compounds: 32 - Ammonia  
 Pollutant: 32 - Ammonia  
 TAC Group: 32 - Ammonia  
 CAS # (Pollutant): 7664417 - Ammonia  
 Emission Factor (EF): 2.93000e+0 \* lbs/tons  
☐ Controlled EF value (mark checkbox if EF listed represents EF determined after control)  
 Overall Control Efficiency: 0.00000  
 Emission Factor Comment: Co-Composting Uncontrolled Ammonia Emissions  
 Emission Factor Data Source: AQMD default  
 Emissions: 2.344e+4 lbs

Buttons: Save, Cancel

Below the dialog box, there is a 'Back to Emission Source Process Reference' button.



## Operation1: Screenshot #7: Data Entry Complete

Facility ID: 999111

**Facility Information**

**Build Reporting Structure**

Combustion Fuels

Emission Sources (E5)

**Report Process/Emissions**

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

**Other Processes**

Process Upset

**Summaries**

Data Validation

Report Submission

This reporting screen is for reporting activity data for other processes used in your facility which were not covered in previous reporting screens. Please provide specific information for every associated emission source. You must select Activity and throughput units before reporting emissions. If the operation of such sources involves burning fuels, make sure emissions generated from burning fuels are reported separately. Combined emissions can also be reported here; however, it must be substantiated to avoid double reporting. Detailed instructions are available by clicking on Help icon in the tool bar.

**Process** [Return to Work in Progress](#)

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
<a href="#">View</a>	E537		P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

**Throughput**

Annual Throughput
<a href="#">View</a>
8,000.0 tons

**Criteria Emissions (lbs)**

Pollutant	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
<a href="#">View</a>	VOC	1.7800 lbs / tons	No	AQMD default	0.00000	14,240.00

**Toxic (TAC/ODC) Emissions (lbs)**

TAC/ODC Group	CAS #	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
<a href="#">View</a>	Ammonia	7664417	2.93000e+0 lbs / tons	No	AQMD default	0.00000	2.344e+4

[Back to Emission Source Process Reference](#)

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## Operation 2: Screenshot #8: Add Emission Source for Composting with Best Management Practices

**AQMD Air Quality Management District**

AER Home Access Facility Facility Home

Facility ID: 999111 · ABC · Reporting period: 2013

**Edit Emission Source**

Providing correct information and proper selection categories would help to classify emission source.

Permitted ☐

A/N

Permit No

Permit Device ID

AER Device ID will be assigned upon saving

ES Name

Operating ES Status **Normal Operation**

Comment **Greenwaste Composting**

**Other Processes**

Emission Source Group **Determine Emission Source Group Type**

Design Capacity

[Save and return to List of Emission Sources](#) or [Save and proceed to Process Reporting](#) or [Cancel](#)

Optional: [Save and Mark as Completed](#)

[AQMD web site Home](#) | [AER Web Site](#) | [Submit question/comment](#) | [Ecotek Web Site](#) | [Report a Bug](#)

## Operation 2: Screenshot #9: Assign Activity Code and Rule Number

South Coast AQMD Air Quality Management District

Facility ID: 99911

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

Other Processes

Process Upset

Summaries

Annual Throughput

Criteria Emissions (lbs)

Pollutant EF Unit Controlled EF EF Data Source Overall CE Emissions

Report period: 2013

Activity which were not associated emission the operation of are reported related to avoid bar.

Mark as Completed

Rule # Activity

delete this process.

Save Cancel

## Operation 2: Screenshot #10: Input Throughput

South Coast AQMD Air Quality Management District

Facility ID: 99911

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

Other Processes

Process Upset

Summaries

Annual Throughput

Criteria Emissions (lbs)

Report period: 2013

Activity which were not associated emission the operation of are reported related to avoid bar.

Completed

Click here to delete this process.

Save Cancel



## Operation 2: Screenshot #11: Input VOC Information

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Source

Report Process

Combustion

External Combustion

Internal Combustion

Use of organic materials

Spray Coatings

Other Uses

Storage Tanks

Fugitive Combustion

Other Processes

Process Upstream

Summaries

Data Validation

Report Submit

Optional: Mark as Completed

Open Criteria Emission Information - Other Processes

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES38			P1	1133.3	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput  
10,000.0 tons

Pollutant  
VOC - Volatile Organic Compounds

Emission Factor (EF)  
2.8000 \* lbs/tons

☒ Controlled EF value  
(mark checkbox if EF listed represents EF determined after control)

Overall Control Efficiency  
0.00000

Emission Factor Comment  
Greenwaste Composting VOC Emissions Using Best Management Practices

Emission Factor Data Source  
AQMD default

Emissions  
28,000.00 lbs

Click here to [delete](#) this Emission.

Save Cancel

Back to Emission Source Process Reference

## Operation 2: Screenshot #12: Input Ammonia Information

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Source

Report Process

Combustion

External Combustion

Internal Combustion

Use of organic materials

Spray Coatings

Other Uses

Storage Tanks

Fugitive Combustion

Other Processes

Process Upstream

Summaries

Data Validation

Report Submit

Completed

Open Toxic (TAC/ODC) Emission Information - Other Processes

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES38			P1	1133.3	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput  
10,000.0 tons

TAC/ODC Toxic Pollutants / Ozone Depleting Compounds

Pollutant  
32 - Ammonia

TAC Group  
32 - Ammonia

CAS # (Pollutant)  
7664417 - Ammonia

Emission Factor (EF)  
5.30000e-1 \* lbs/tons

☒ Controlled EF value  
(mark checkbox if EF listed represents EF determined after control)

Overall Control Efficiency

Emission Factor Comment  
Greenwaste Ammonia Emissions Using Best Management Practices

Emission Factor Data Source  
AQMD default

Emissions  
5.300e+3 lbs

Save Cancel

Back to Emission Source Process Reference

## Operation 2: Screenshot #13: Data Entry Complete

Facility ID: 999111

double reporting. Detailed instructions are available by clicking on Help icon in the tool bar.

**Process** Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
Open	ES38		P1	1133.3	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Click here to [delete](#) this process.

**Throughput**

Annual Throughput
10,000.0 tons

**Criteria Emissions (lbs)**

Pollutant	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Open	VOC	2.8000 lbs / tons	Yes	AQMD default	0.00000	28,000.00

[Add New](#)

**Toxic (TAC/ODC) Emissions (lbs)**

TAC/ODC Group	CAS #	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Open	Ammonia	7664417	5.30000e-1 lbs / tons	Yes	AQMD default		5.300e+3

[Add New](#)

[Back to Emission Source Process Reference](#)

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## Operation 3: Screenshot#14: Add Emission Source for Co-Composting With Add-on Control

Facility ID: 999111 · ABC · Reporting period: 2013

**Edit Emission Source**

Providing correct information and proper selection categories would help to classify emission source.

Permitted ☐

A/N

Permit No

Permit Device ID

AER Device ID will be assigned upon saving

ES Name

Operating ES Status Normal Operation

Comment

Emission Source Group Other Processes

[Determine Emission Source Group Type](#)

Design Capacity

[Save and return to List of Emission Sources](#) or [Save and proceed to Process Reporting](#) or [Cancel](#)

Optional: Save and Mark as Completed

AQMD web site Home | AER Web Site | Submit question/comment | Ecotek Web Site | Report a Bug

### Operation 3: Screenshot #15: Select Process ID P1

Facility ID: 999111 Form data is successfully saved. Facility ID: 999111 · ABC · Reporting period: 2013

Process References

A/N	Permit NO	Permit Device ID	AER Device ID	ES Name	Source Group	Emissions?	Equipment	ES Status
P1		Other Process Emissions	ES39	Other Process Emissions	Other Processes	Y	Other process equipment	Work in progress

Process ID: P1 Source Group: Other Process Emissions Process Name: Other Process Emissions Process Status: Work in progress Operation Type: routine

Add Process

OK

Displaying 39 emission sources. You can use filter to narrow down selection.

A/N: Permit NO: AER Device ID: Permit Device ID: Search Emission Sources

Add New Emission Source

Search: Print Preview

### Operation 3: Screenshot #16: Assign Activity Code and Rule Number

Facility ID: 999111 Reporting period: 2013

Edit Emission Process - Other Processes

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES39	P1	NON-PERMITTED	P1	1133.2	Co-Composting

AER Device ID: ES39 AER Device Name: NON-PERMITTED Permit Device ID: P1 Process Name: Co-Composting Process Comment: Activity Code: Sector: Miscellaneous Operations and Services Industry: Others - Not Classified Operation: Operations & Maintenance Process: Rule #: 1133.2 Add Rule

Save Cancel

Annual Throughput

Criteria Emissions (lbs)

Pollutant	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
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### Operation 3: Screenshot #17: Input Throughput

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organic materials

Spray Coatings

Other Uses

Storage Tanks

Fugitive Combustion

Other Processes

Process Upset

Summaries

Data Validation

Report Submission

Process

Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES39			P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Click here to delete this process.

Annual Throughput Information - Other Processes

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES39			P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput

18,000.0 \* tons

Throughput Type

Input \*

Throughput Comment

Controlled by TO with 99.2% Efficiency

Save Cancel

Toxic (TAC/ODC) Emissions (lbs)

TAC/ODC Group	CAS #	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Add New							

Back to Emission Source Process Reference

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### Operation 3: Screenshot #18: Input VOC Information

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organic materials

Spray Coatings

Other Uses

Storage Tanks

Fugitive Combustion

Other Processes

Process Upset

Summaries

Data Validation

Report Submission

Process

Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES39			P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Click here to delete this process.

Open Criteria Emission Information - Other Processes

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES39			P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput

18,000.0 tons

Pollutant

VOC - Volatile Organic Compounds

Emission Factor (EF)

1.7800 \* lbs/tons

Controlled EF value

(mark checkbox if EF listed represents EF determined after control)

Overall Control Efficiency

0.99200

Emission Factor Comment

Co-Composting Controlled with Thermal Oxidizer

Emission Factor Data Source

Source Test

Emissions

256.32 lbs

Click here to delete this Emission.

Save Cancel

Back to Emission Source Process Reference

AQMD web site Home | AER Web Site | Submit question/comment | Ecotek Web Site | Report a Bug

### Operation 3: Screenshot #19: Input Ammonia Information

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

Other Processes

Process Upset

Summaries

Data Validation

Report Submission

Open Toxic (TAC/ODC) Emission Information - Other Processes

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
ES39			P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Annual Throughput

18,000.0 tons

TAC/ODC Toxic Pollutants / Ozone Depleting Compounds

Pollutant: 32 - Ammonia

TAC Group: 32 - Ammonia

CAS # (Pollutant): 7664417 - Ammonia

Emission Factor (EF): 2.93000e+0 lbs/tons

Controlled EF value (mark checkbox if EF listed represents EF determined after control)

Overall Control Efficiency: 0.75000

Emission Factor Comment: Co-Composting Ammonia Emissions After Add-on Control

Emission Factor Data Source: Source Test

Emissions: 1.319e+4 lbs

Save Cancel

Back to Emission Source Process Reference

AQMD web site Home | AER Web Site | Submit question/comment | Ecotek Web Site | Report a Bug

### Operation 3: Screenshot #20: Data Entry Complete

Facility ID: 999111

Facility Information

Build Reporting Structure

Combustion Fuels

Emission Sources (ES)

Report Process/Emissions

Combustion

External Combustion

Internal Combustion

Use of organics

Spray Coating/Spray Booth

Other Use of Organics

Storage Tanks

Fugitive Components

Other Processes

Process Upset

Summaries

Data Validation

Report Submission

Process

Optional: Mark as Completed

AER Device ID	Permit Device ID	A/N	Process ID	Rule #	Activity
Open	ES39		P1	1133.2	Miscellaneous Operations and Services : Others - Not Classified : Operations & Maintenance

Click here to delete this process.

Throughput

Annual Throughput

18,000.0 tons

Criteria Emissions (lbs)

Pollutant	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Open	VOC	1.7800 lbs / tons	No	Source Test	0.99200	256.32

Add New

Toxic (TAC/ODC) Emissions (lbs)

TAC/ODC Group	CAS #	EF	Unit	Controlled EF	EF Data Source	Overall CE	Emissions
Open	Ammonia	7664417	2.93000e+0 lbs / tons	No	Source Test	0.75000	1.319e+4

Add New

Back to Emission Source Process Reference

AQMD web site Home | AER Web Site | Submit question/comment | Ecotek Web Site | Report a Bug

## Operations 1, 2 and 3: Screenshot #21: All Sources Are Added

Emission Sources (ES) Classification (1.0.0.211) - Windows Internet Explorer provided by South Coast A.Q.M.D.

File Edit View Favorites Tools Help

http://aerdev.aqmd.gov/Facility/999111/2013/EmissionSources

Favorites AER Device Management AIRNet

Emission Sources (ES) Classification (1.0....

Page Safety Tools

Facility ID: 999111 ABC Reporting period: 2013

**Build Reporting Structure**

**Emission Sources (ES) Classification**

This section contains facility permit profile. Please make sure that every device has a specified Emission Source (ES). New emission sources can also be added.

EPA TANKS Software DATA IMPORT - [Click here](#) for more instructions.

Displaying 39 emission sources. You can use filter to narrow down selection.

A/N  Permit NO   
AER Device ID  Permit Device ID

[Add New Emission Source](#)

Search:

Action	A/N	Permit NO	Permit Device ID	Permit Equipment Description	AER Device ID	ES Name	Source Group	Has Emissions	Equipment	ES Status	Process Reference
<a href="#">Open</a>					ES39	Other Processes		Y	Other process equipment	Work in progress	<a href="#">Reference</a>
<a href="#">Open</a>					ES38	Other Processes		Y	Other process equipment	Work in progress	<a href="#">Reference</a>
<a href="#">Open</a>					ES37	Other Processes		Y	Other process equipment	Work in progress	<a href="#">Reference</a>

Done

Local intranet | Protected Mode: Off

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